

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK
MANHATTAN DIVISION**

VIRTUAL SOLUTIONS LLC,

Plaintiff,

v.

MICROSOFT CORP.,

Defendant.

Case No. 12-CV-1118 (SAS)

**PLAINTIFF VIRTUAL SOLUTIONS, LLC'S RESPONSE IN OPPOSITION TO
DEFENDANT MICROSOFT CORPORATION'S MOTION FOR SUMMARY
JUDGMENT OF INVALIDITY FOR INDEFINITENESS**

DATED: NOVEMBER 16, 2012

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Statutes

35 U.S.C. § 112 ¶ 6	<i>passim</i>
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I. INTRODUCTION

Microsoft has failed to meet its burden of establishing, by clear and convincing evidence, that the claims of U.S. Patent No. 6,507,353 (hereinafter referred to as the ‘353 patent are indefinite. The claim terms at issue are not insolubly ambiguous. A skilled artisan, based on review of the intrinsic evidence and his or her knowledge of the relevant art is able to discern the metes and bounds of the claims, including the limitation “physical characteristic signal.” In addition, Defendant has failed to overcome the strong presumption that § 112 ¶ 6 (means plus function) should not apply to the term “virtual environment stimulus generator,” which lacks the language “means for” creating a strong presumption that § 112 ¶ 6 does not apply. Even if § 112 ¶ 6 were found to apply, Defendant has failed to acknowledge the voluminous structure recited in the ‘353 patent that corresponds to the “virtual environment stimulus generator.” Furthermore, there are genuine issues of material fact that should be decided by a jury. As a result, summary judgment is improper and, for the reasons stated herein, Defendant’s motion should be denied.

II. OVERVIEW OF THE ‘353 PATENT

The ‘353 patent is titled “Influencing Virtual Actors in an Interactive Environment.” [R. 56.1 Stmt. ¶ 52]. It generally relates to a method of influencing the movement and action of virtual actors in an interactive theater. [R. 56.1 Stmt. ¶ 53]. As described in the ‘353 patent, the theater area could be a dome, closed room or even an open area and the projection of images could be replaced by holographic display or any type of presentation. [R. 56.1 Stmt. ¶ 54].

The inventions claimed in the ‘353 patent accomplish influencing the movement and action of virtual actors by providing a plurality of sensors that detect and sense at least one physical characteristic of a visitor, or user. [R. 56.1 Stmt. ¶ 55]. The sensors then generate

sensor signals that are interpreted to provide a physical characteristic signal that provides information on visitor/user activity and location in the theater area. [R. 56.1 Stmt. ¶ 56].

In conjunction with this, the claimed inventions provide a behavior model for the virtual actors in the interactive environment. [R. 56.1 Stmt. ¶ 57]. An example of such a virtual actor could be an animal, zombie, or other type of character. [R. 56.1 Stmt. ¶ 58]. The claimed inventions then analyze the physical characteristic signal, a change in time of the signal and the behavior model to generate a behavior vector. [R. 56.1 Stmt. ¶ 59]. The behavior vector is based on at least the physical characteristic signal, which includes position information pertaining to the visitor/user, and the behavior model, which also includes position information pertaining to the visitor/user. [R. 56.1 Stmt. ¶ 60].

In the claimed inventions, the behavior vector is generated in real-time to allow the virtual actor(s) to react and interact, in real-time, with visitors/users based on the visitor's/user's actions and the evolution of those actions in time. [R. 56.1 Stmt. ¶ 61]. This provides a more immersive, interactive, realistic and life-like experience for the visitor/user. [R. 56.1 Stmt. ¶ 62].

The inventions set forth in the '353 patent also include providing a virtual environment stimulus generator, which is tasked with analyzing the virtual environment database (e.g., the information pertaining to the virtual environment) and generating a virtual environment stimulus in response to the analysis. [R. 56.1 Stmt. ¶ 63]. This stimulus could be a reaction that a particular character in the interactive environment may have to an action taken by a visitor/user (e.g., fish swims away or zombie dies). [R. 56.1 Stmt. ¶ 64]. The stimulus can also be the creation of a new virtual actor/character in the interactive environment in response to a specific action (e.g., fish swims away so create new fish or zombie dies so create new zombie). [R. 56.1 Stmt. ¶ 65].

III. LEGAL STANDARDS

Summary judgment is appropriate when “the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law.” *Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23 (1986). Indefiniteness is a question of law with factual underpinnings. *HTC Corp. v. IPCom GmbH & Co., KG*, 667 F.3d 1270, 1279 (Fed. Cir. 2012). In determining whether there is a genuine issue of material fact, the evidence must be viewed in the light most favorable to the party opposing the motion, with doubts resolved in favor of the opponent. *IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 1380 (Fed. Cir. 2005).

1. General Legal Standards Governing Indefiniteness.

Issued patents are presumed valid and therefore evidence of indefiniteness must be clear and convincing. *Med. Instrumentation & Diagnostics Corp. v. Elekta*, 344 F.3d 1205, 1220 (Fed. Cir. 2003). A claim is only considered indefinite if it does not reasonably apprise those skilled in the art of its scope. *IPXL*, 430 F.3d at 1383-84. A claim satisfies the definiteness requirement of § 112 “[i]f one skilled in the art would understand the bounds of the claim when read in light of the specification.” *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008) (quoting *Exxon Research & Eng’g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001)). A claim will be found indefinite only if it is “insolubly ambiguous, and no narrowing construction can properly be adopted.” *Id.* If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, the claim is sufficiently clear to avoid invalidity on indefiniteness grounds. *Id.*

Proof of indefiniteness requires such an exacting standard because claim construction often poses a difficult task over which “expert witnesses, trial courts, and even the judges of the [Federal Circuit] may disagree.” *Halliburton Energy Services, Inc. v. M-I LLC*, 514 F.3d 1244, 1249-50 (Fed. Cir. 2008) (quoting *Exxon*, 264 F.3d at 1375). The standard for indefiniteness can only be met when an accused infringer shows by clear and convincing evidence that a skill artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area. *Id.*

2. Legal Standards Governing Indefiniteness and Means-Plus-Function Limitations.

A claim term that does not use the catch-word “means” triggers a rebuttable presumption that § 112 ¶ 6 does not apply. *Light World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1358 (Fed. Cir. 2004). Federal Circuit case law makes it clear that “the presumption flowing from the absence of the term ‘means’ is a strong one that is not readily overcome.” *Id.* The use of the term “means” has come to be so closely associated with “mean-plus-function” claiming that it is fair to say use of the term “means” generally invokes § 112 ¶ 6 and use of a different formulation generally does not. *Personalized Media Communications, LLC v. Int’l Trade Commission*, 161 F.3d 696, 703 (Fed. Cir. 1998).

In considering whether a claim term recites sufficient structure to avoid application of § 112 ¶ 6, a claim does not have to denote specific structure. *Light World*, 382 F.3d at 1359. It is sufficient if the claim term is used in common parlance or by persons of skill in the art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their functions. *Id.* at 1359-60.

The presumption against application of § 112 ¶ 6 to terms that do not use the catch-word “means” may only be overcome if it is shown that “the claim term fails to ‘recite sufficiently definite

structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *M.I.T. v. Abacus Software*, 462 F.3d 1344, 1353 (Fed. Cir. 2006). In making this determination, the Federal Circuit has contrasted use of generic terms such as “mechanism,” “means,” “element,” and “device,” that typically do not connote sufficiently definite structure, with terms such as “detector” or “generator,” which typically do connote sufficient structure. *Id.* at 1354; *see also Mitutoyo Corp. v. Central Purchasing, LLC*, 2005 WL 1026710 (N.D. Ill. Apr. 20, 2005) (finding that § 112 ¶ 6 did not apply to term “signal generator means,” even though catch-word “means” was present, because claim disclosed sufficient structure to overcome presumption that § 112 ¶ 6 applied).

To the extent § 112 ¶ 6 is found to apply, to satisfy its requirements all one needs to do is recite some structure in the specification corresponding to the means so that one can readily ascertain what the claim means. *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1384 (Fed. Cir. 1999). While the specification must contain structure linked to the claimed means, this is not a high bar. *Biomedino, LLC v. Waters Technologies Corp.*, 490 F.3d 946, 950 (Fed. Cir. 2007). Whether or not a patent discloses sufficient structure requires input from one of ordinary skill in the art. *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1534 (Fed. Cir. 1987) (“A patent need not teach, and preferably omits, what is well known in the art.”); *see also Atmel Corp.*, 198 F.3d at 1382 (“The specification would be enormous and unnecessary length if one had to literally reinvent and describe the wheel.”).

In cases involving “computer implemented inventions,” the Federal Circuit has framed the inquiry under 35 U.S.C. § 112 ¶ 2 as follows:

“[t]he correct inquiry is to look at the disclosure of the patent and determine if one of skill in the art would have understood that disclosure to encompass software for [the claimed function] and been able to implement such a program ... It is not proper to look to the knowledge of one of one skilled in the art apart from and unconnected to the disclosure of the patent.”

Blackboard, Inc. v. Desire2Learn, Inc., 574 F.3d 1371, 1385 (Fed. Cir. 2009). In other words, the relevant inquiry is whether there is enough of a disclosure in the specification to allow one skilled in the art to understand the disclosure encompassed a structure for the means that performs the claimed functions. *Id.*

In *Aristocrat Technologies Australia Pty Ltd. v. Multimedia Games, Inc.*, 266 Fed.Appx. 942, 947 (Fed. Cir. Feb. 22, 2008)¹ the Federal Circuit stated that its prior decision in *WMS Gaming* “does not require that a particular algorithm be identified if the selection of the algorithm or group of algorithms needed to perform the function in question would be readily apparent to a person of skill in the art.” In addition, in *Medical Instrumentation*, 344 F.3d at 1213-14 the Federal Circuit also concluded that “there would be no need for a disclosure of the specific program code if software were linked to the converting function and one skilled in the art would know the kind of program to use.” The Federal Circuit has explicitly stated that an algorithm may be expressed in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure. *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008); *see also IP Innovation*, 2009 WL 2460982 * 10 (noting that description of particular code for implementing function is not required in means-plus-function limitation in order to save its validity).

¹ The Federal Circuit’s Feb. 22, 2008 decision in *Aristocrat Technologies* was decided by the same Federal Circuit panel as the Federal Circuit’s decision in *Aristocrat Technologies Australia Pty Ltd. v. Int’l Game Technology*, 521 F.3d 1328 (Fed. Cir. 2008) relied on by Defendants.

IV. ARGUMENT

1. The Term “physical characteristic signal” is Not Insolubly Ambiguous.

Claim 1 of U.S. Patent No. 6,507,353 states in part:

... interpreting said sensor signals to provide at least one **physical characteristic signal including position information**, ...

... to generate a behavior vector of said at least one virtual actor using **said position information and said at least one physical characteristic signal**

[R. 56.1 Stmt. ¶ 66]. Defendant’s argument boils down to the contention that “position information” cannot be part of the “physical characteristic signal” and also be used separate from the “physical characteristic signal.” This is illogical and directly contradicted by the intrinsic evidence.

Position information is merely information, or data, that pertains to the location of visitors in the theater area. [R. 56.1 Stmt. ¶ 67]. This is supported by the intrinsic evidence and conceded by Defendant. [R. 56.1 Stmt. ¶ 67]. For example, Figures 2 and 3 depict PositionalSensor 21, 46, which obtains position information and provides that to a PositionalStimulusGenerator 24, 49, which in turns provides it to the Behavioral Module 28, 58, 68. [R. 56.1 Stmt. ¶ 68]. The ‘353 patent describes the SensorData class 87, which is the data class that stores the “position information” received from the sensors, such as the Positional Sensor 21, 46. [R. 56.1 Stmt. ¶ 69].² In other words, “position information” is data about the position of visitor/user that is stored. [R. 56.1 Stmt. ¶ 67]. A further example of this is shown in Table 1, which is set forth below.

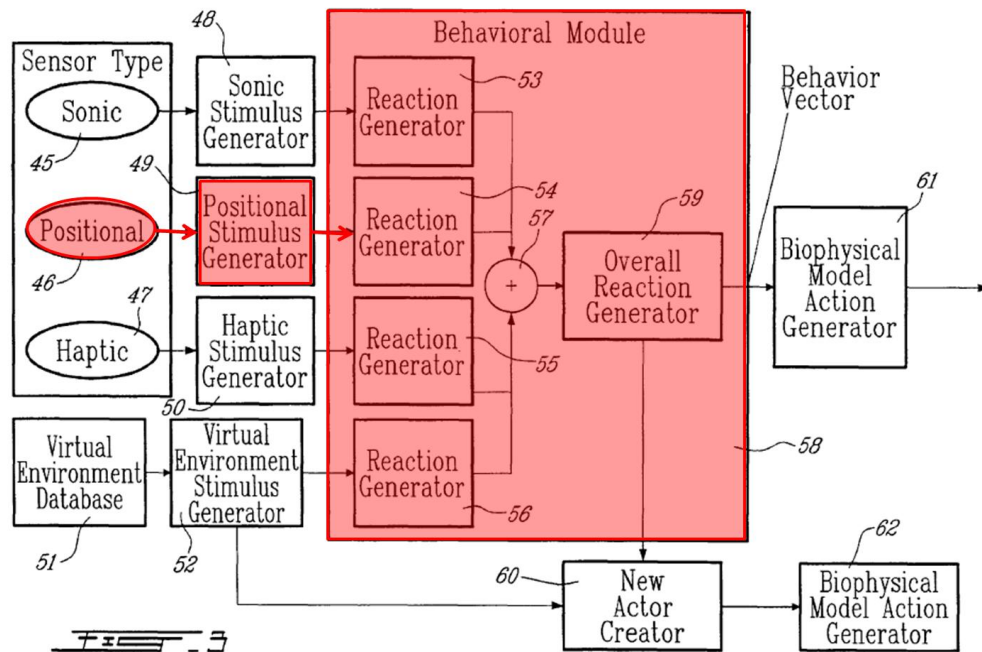
² The SensorData class 87 is further subdivided into the PhysicalSensorData class 91 and the VirtualSensorData class 93. [R. 56.1 Stmt. ¶ 70].

TABLE 1

EXAMPLE OF A CALIBRATION TABLE				
Sensor	Type	X	Y	Z
A	Sonic	4.356	7.923	8.382
B	Sonic	2.748	1.038	2.661
C	Positional	8.233	8.018	0.000

[R. 56.1 Stmt. ¶ 71]. As shown in Table 1, information from the sensors, such as positional information (in this example, X,Y,Z coordinates), is stored. [R. 56.1 Stmt. ¶ 71].

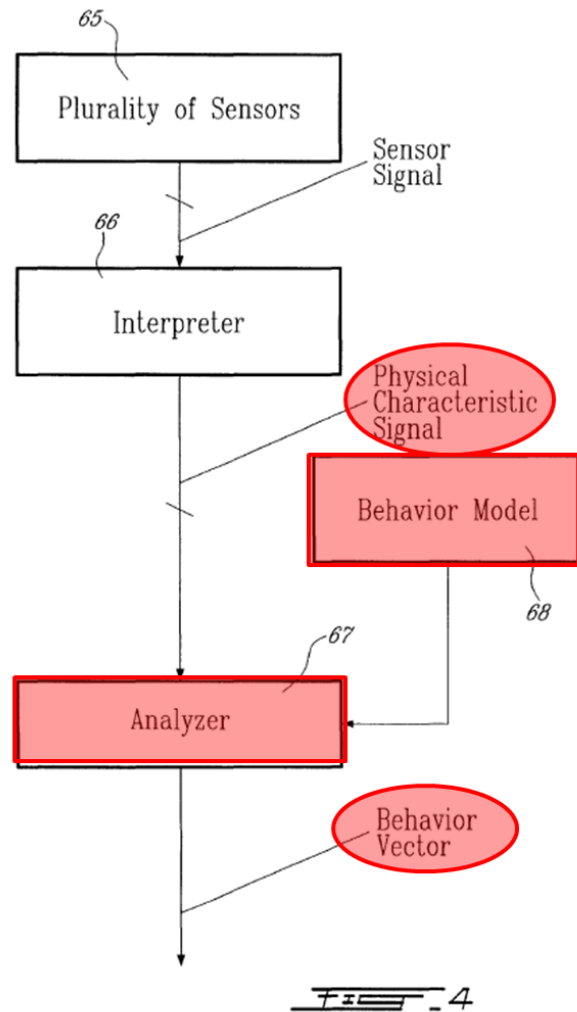
As described in claim 1, the “physical characteristic signal” is a signal that includes, *inter alia*, the position information. [R. 56.1 Stmt. ¶ 72]. The mere fact that the physical characteristic signal includes the position information does not mandate that the position information, which is data, cannot be used independent of the physical characteristic signal. [R. 56.1 Stmt. ¶ 73]. This is highlighted by the intrinsic evidence and, in particular, viewing Figure 3, and its corresponding description, in conjunction with Figure 4, and its corresponding description.



[R. 56.1 Stmt. ¶¶ 74-82]. As shown in Figure 3, Positional Sensor 46 sends “position information” to Positional Stimulus Generator 49, which then sends the information to Behavioral Module 58, 68.

[R. 56.1 Stmt. ¶ 74]. At this point the Behavioral Module has received the “position information.”

[R. 56.1 Stmt. ¶ 74].



As shown in Figure 4, information from Plurality of Sensors 65, including “position information,” is sent to Interpreter 66 to create the “physical characteristic signal that includes position information.”

[R. 56.1 Stmt. ¶ 75]. In addition, Figure 4 shows that the Behavior Vector is derived from Analyzer

67, which receives the Physical Characteristic Signal as well as information from the Behavior

Module 68. [R. 56.1 Stmt. ¶ 76]. This is described in the ‘353 patent as follows:

An interpreter 66 filters and analyzes the raw signals from these sensors and produces a physical characteristic signal which can be a bus or a single vector. The analyzer 67 reads from the behavioral module 68 and produces a rendering vector which will be used to display the environment.

[R. 56.1 Stmt. ¶ 77]. The Behavior Module 68 also has “the position information,” as previously discussed in conjunction with Figure 3. [R. 56.1 Stmt. ¶ 74]. As a result, Figure 4 depicts exactly what is claimed: the generation of a behavior vector for at least one virtual actor using: (1) position information (from the Behavioral Module); and (2) the physical characteristic signal that also includes the position information. [R. 56.1 Stmt. ¶ 78].

The term “physical characteristic signal including position information” is not ambiguous, let alone insolubly ambiguous. [R. 56.1 Stmt. ¶ 79]. It is a “physical characteristic signal that includes position information.” One of ordinary skill in the art would understand this based on the intrinsic evidence as well as his/her knowledge of the relevant art area. [R. 56.1 Stmt. ¶ 80]. *See e.g., Haliburton*, 514 F.3d at 1249-50. Likewise, the term “using said position information and said at least one physical characteristic signal” is not ambiguous, let alone insolubly ambiguous. [R. 56.1 Stmt. ¶ 81]. The claimed behavior vector is generated using the “position information” as well as the “physical characteristic signal.” [R. 56.1 Stmt. ¶ 66]. The fact that the “physical characteristic signal” also includes, *inter alia*, position information does not render the claim indefinite. [R. 56.1 Stmt. ¶¶ 80-82]. It is “information” that can be used independently of the “physical characteristic signal,” as part of the “physical characteristic signal,” or both. [R. 56.1 Stmt. ¶ 82].

The claims could, and do, indicate that “the position information” is used in several other ways. [R. 56.1 Stmt. ¶ 83]. For example, claim 10 indicates that a new actor is created using the

physical characteristic signal, the behavior model and the position information. [R. 56.1 Stmt. ¶ 84]. Claims 13 and 15 indicate that a reaction to the physical characteristic signal is generated using the behavior model and the position information. [R. 56.1 Stmt. ¶ 85]. The ability to use “position information,” which is data, in multiple manners is contemplated by the ‘353 patent. [R. 56.1 Stmt. ¶ 86]. It does not render the claim indefinite. [R. 56.1 Stmt. ¶¶ 80-82, 87]. It merely indicates how “the position information” is, and can be, used. One of ordinary skill in the art would understand this and be able to ascertain the bounds of the claims when read in light of the specification. [R. 56.1 Stmt. ¶ 87]. As a result, Defendant’s contention that the term “physical characteristic signal” is indefinite should be denied.³

2. The Term “virtual environment stimulus generator” is Not Governed by § 112 ¶ 6.

It is undisputed that the term “virtual environment stimulus generator” does not use the catch-word “means.” [R. 56.1 Stmt. ¶ 88]. As a result, for § 112 ¶ 6 to apply Defendant must overcome the strong presumption that § 112 ¶ 6 should not apply. *Light World*, F.3d at 1358. To overcome this strong presumption, Defendant must establish by clear and convincing evidence that claim 8 does not contain sufficient structure. *Id.*⁴ This is a burden that Defendant has not and cannot meet.

In *Personalized Media Communications*, the term at issue was “digital detector.” 161 F.3d at 704. The catch-word “means” was not used, requiring the accused infringer to overcome

³ At a minimum, the conclusion that “position information” may be used in multiple ways throughout the claims of the ‘353 patent is a conclusion over which reasonable persons may disagree. As a result, claim 1 is still sufficiently clear to avoid invalidity on indefiniteness grounds requiring denial of Defendant’s motion. *See Praxair*, 543 F.3d at 1319.

⁴ In considering whether a claim term recites sufficient structure to avoid application of § 112 ¶ 6, a claim does not have to denote specific structure. *Light World*, 382 F.3d at 1359. It is sufficient if the claim term is used in common parlance or by persons of skill in the art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their functions. *Id.* at 1359-60.

the strong presumption against application of § 112 ¶ 6. *Id.* In determining whether sufficient structure existed in the claim, the Federal Circuit held that the term “detector” was a sufficient recitation of structure to avoid application of § 112 ¶ 6. *Id.* The Court noted that “detector” is not a generic structural term such as “means,” “element” or “device.” *Id.* Relying on dictionary definitions for the term “detector,” the Court held that “detector” had a well-known meaning to those of skill in the electrical arts as connoting structure. *Id.* at 704-05. The Court further stated:

Even though the term “detector” does not specifically evoke a particular structure, it does convey to one knowledgeable in the art a variety of structures known as “detectors.” We therefore conclude that the term “detector” is a sufficiently definite structural term to preclude the application of § 112 ¶ 6.

*Id.*⁵

Similarly, in *Greenberg v. Ethicon Endo-Surgery, Inc.*, the Court held that § 112 ¶ 6 did not apply to the term “detent mechanism,” even though it utilized the generic term “mechanism.” 91 F.3d 1580, 1583 (Fed. Cir. 1996). The Court relied on dictionary definitions for the term “detent,” holding that these definitions connoted sufficient structure to avoid application of § 112 ¶ 6. *Id.* The Court also concluded that:

[t]he fact that a particular mechanism – here “detent mechanism” – is defined in functional terms is not sufficient to convert a claim element containing that term into a “means for performing a specified function” within the meaning of [§ 112 ¶ 6] because [m]any devices take their names from the functions they perform.

Id.

⁵ In *Mitutoyo Corp. v. Central Purchasing, LLC*, the United States District Court for the Northern District of Illinois, in relying in part on the structural dictionary definition of the term “generator,” found that the term “signal generator means,” did not invoke § 112 ¶ 6 despite using the word means because the claim recited sufficient structure to rebut the strong presumption that § 112 ¶ 6 should apply. 2005 WL 1026710; *see also* Markman Order, Case No. 1:03-cv-0990, (Dkt. No. 111) (N.D. Ill. March 3, 2005).

In the present case, the strong presumption against application of § 112 ¶ 6 cannot be overcome because sufficient structure exists in the claim itself. [R. 56.1 Stmt. ¶¶ 88-110]. The term “virtual environment stimulus generator” does not use generic structural language such as “means,” “element,” or “device.” [R. 56.1 Stmt. ¶ 89]. Rather, as in *Personalized Media* and *Greenberg*, claim 8 uses specific structural language such as “generator” and “virtual environment” that have well-known meanings to those of skill in the art. [R. 56.1 Stmt. ¶¶ 90-96]. The term “generator,” as used in the computer context, has the following definitions:

- A program that produces a particular type of output on demand, as random numbers, an application program, or a report. [R. 56.1 Stmt. ¶ 91].
- A routine that constructs other routines or subroutines using given parameters, for specific applications [R. 56.1 Stmt. ¶ 92].
- A program that produces specific programs from the definition of an operation [R. 56.1 Stmt. ¶ 93].

While the term “generator” is itself not generic and connotes specific structure, it does not stand alone. As in *Greenberg*, it is further specified as a “virtual environment stimulus generator.”

The term “virtual environment” also has a well-known structural meaning to those of skill in the art, and is defined as: “a computer-generated, three-dimensional representation of a setting in which the user of the technology perceives themselves to be and within which interaction takes place.”⁶ [R. 56.1 Stmt. ¶ 94]. This is more than adequate structure to avoid application of § 112 ¶ 6. [R. 56.1 Stmt. ¶ 104, 110, 111].

Defendant argues that § 112 ¶ 6 must apply because claim 8 describes the element in terms of its function, rather than its structure. First, as described above this is false – claim 8 sets

⁶ The terms “virtual environment” and “virtual reality” are also defined by Wikipedia as: Virtual reality (VR) is a term that applies to computer-simulated environments that can simulate physical presence in places in the real world, as well as in imaginary worlds. [R. 56.1 Stmt. ¶ 95].

forth sufficient structure. [R. 56.1 Stmt. ¶ 111]. Second, this is not the law. As the Federal Circuit stated in *Lighting World, Inc.*:

... the fact that a particular mechanism ... is defined in functional terms is not sufficient to convert a claim element containing that term into a ‘means for performing a specified function’ within the meaning of section 112(6).

382 F.3d at 1360.

Further, in the context of method claims, “claiming a step by itself, or even a series of steps, does not implicate section 112 ¶ 6. *O.I. Corp. v. Tekmar Co. Inc.*, 115 F.3d 1576, 1583 (Fed. Cir. 1997). As the Federal Circuit expressed: “If we were to construe every process claim containing steps described by an “ing” verb, such as passing, heating, reacting, transferring, etc. into a step-plus-function limitation, we would be limiting process claims in a manner never intended by Congress.” *Id.* This is exactly what Defendant is attempting to do.

Claim 8 is a method claim that claims the step of “providing a virtual environment stimulus generator” [R. 56.1 Stmt. ¶ 97]. Construing this limitation to be governed by § 112 ¶ 6 is exactly what the Federal Circuit rejected in *O.I. Corp.* 115 F.3d at 1583. Further, it would arguably require finding that other limitations in the asserted claims in this case are governed by § 112 ¶ 6, such as “providing a plurality of sensors detecting and sensing” (claim 1), “providing a behavior model for at least one virtual actor” (claim 1), etc. [R. 56.1 Stmt. ¶ 98]. Defendant is not attempting to argue that these other limitations are governed by § 112 ¶ 6 because they are not, just as “providing a virtual environment stimulus generator” is not.

The term “virtual environment stimulus generator” is not generic – it is understood by one of ordinary skill to connote specific structure and therefore § 112 ¶ 6 is not applicable. [R. 56.1 Stmt. ¶¶ 89-96]. Holding otherwise would deviate from decades of Federal Circuit

precedent and contradict the Congressional intent behind § 112 ¶ 6. As a result, Defendant's arguments should be denied.

3. **Even if Governed by § 112 ¶ 6 Sufficient Structure Corresponds to the “virtual environment stimulus generator” to Meet the Requirements of § 112 ¶ 6 and Render it Definite.**

Even if, *arguendo*, the Court were to find that § 112 ¶ 6 applies to the term “virtual environment stimulus generator,” sufficient corresponding structure exists requiring denial of Defendant's motion for summary judgment. As discussed *supra*, the term “virtual environment stimulus generator” alone connotes sufficient structure to render the limitation definite. [R. 56.1 Stmt. ¶ 111]. In addition, the '353 patent specification further refines and adds to this structure.

The '353 patent states:

The biophysical model action generator 30 also sends a virtual environment update to the virtual environment database 26. This database comprises all data concerning all actors at any point in time. **The Virtual Environment Stimulus Generator 27 reads information from this database 26 in order to calculate the occurrence of random events such as the apparition of new actors, for example. Once the Virtual Environment Stimulus Generator 27 decides that a new actor should be created, a signal is sent to the new actor creation module 29.**

[R. 56.1 Stmt. ¶ 99]. The '353 patent also states:

A virtual environment database 51 keeps track, as explained earlier, of all activities in the dome. **The virtual environment stimulus generator 52 computes random events and can create new actors. It can also generate a reaction using the reaction generator 56, which will be added 57 to the overall reaction generator 59.** A new actor creator 60 uses the signal from the overall reaction generator 59 and the virtual environment stimulus generator 52 and decides on a reaction which is fed to the biophysical model action generator 62 of the new actor.

[R. 56.1 Stmt. ¶ 100].

Satisfying § 112 ¶ 6 does not require disclosure of a particular algorithm or specific program code. *Aristocrat*, 266 Fed.Appx. at 947; *Medical Instrumentation*, 344 F.3d at 1213-14.

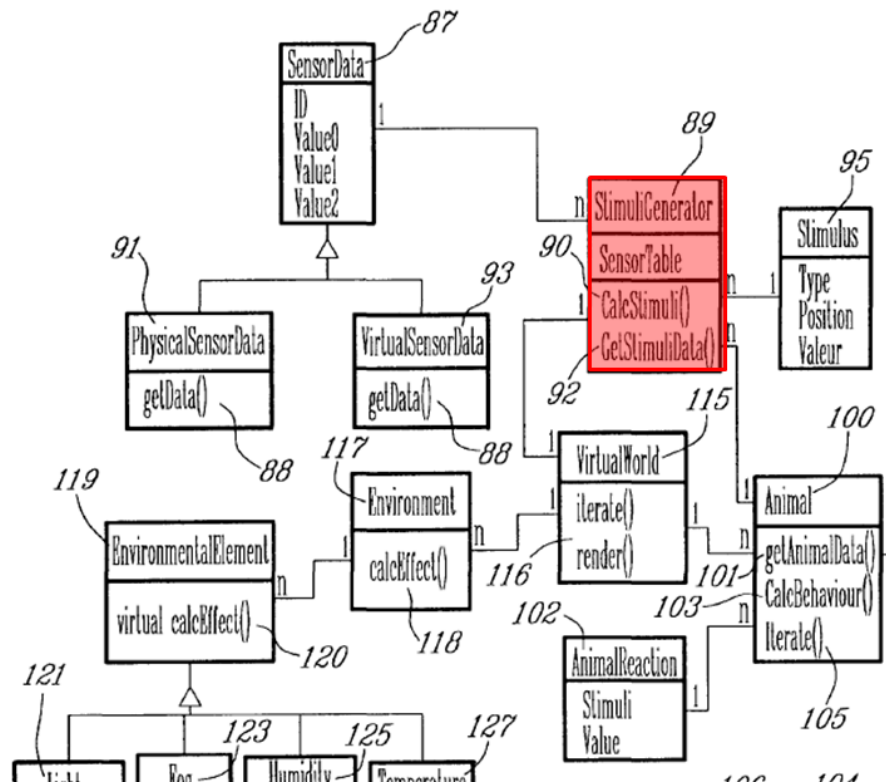
In addition, an algorithm does not have to be expressed in terms of code, but rather can be expressed in prose, as a flow chart, or in any manner that provides sufficient structure. *Finisar*, 523 F.3d at 1340. The above excerpts from the ‘353 patent detail, in prose, the algorithm performed by the “virtual environment stimulus generator.”⁷ [R. 56.1 Stmt. ¶¶ 101-102]. The virtual environment stimulus generator reads information from the virtual environment database, analyzes that information to determine if a new actor should be created or a reaction should be generated and, once that determination is made, it sends a signal to the new actor creation module or the reaction generator. [R. 56.1 Stmt. ¶ 103]. One of ordinary skill would understand that the ‘353 patent connotes sufficient structure corresponding to the “virtual environment stimulus generator” to meet the requirements of § 112 ¶ 6. [R. 56.1 Stmt. ¶ 104].

However, the ‘353 patent goes beyond the above excerpts, and the requirements of § 112 ¶ 6, and identifies the specific functions and code class utilized by the virtual environment stimulus generator. [R. 56.1 Stmt. ¶¶ 105-108]. In describing the StimuliGenerator class 89, the ‘353 patent states:

This class is the core of the spatial module. Known by the feedback controller of the system (the class VirtualWorld 115), it collects, at a pre-established frequency, through a call to its public method calcStimuli() 90, the data relative to the sensors (via the classes defined above) and creates a linked list of stimuli, which will be returned to the calling function.

[R. 56.1 Stmt. ¶ 105]. Figure 8, which pertains to the above excerpt, provides a “class diagram of the entire system’s software components to be described with respect to the modules.” [R. 56.1 Stmt. ¶ 106].

⁷ Figures 2 and 3, which accompany the above excerpts, also provide flow charts showing the relationship of the virtual environment stimulus generator 27, 52 to the virtual environment database 26, 51 and the new actor creation module 29, 60 and reaction generator 56. [R. 56.1 Stmt. ¶¶ 101-102].



Shown above is an excerpt of Figure 8, showing the StimuliGenerator 89 class and its components, including SensorTable, which stores data received from SensorData 87, and the methods CalcStimuli 90 and GetStimuliData 92. [R. 56.1 Stmt. ¶ 107]. This identification of a specific computer class and methods that can be used to implement the “virtual environment stimulus generator” goes well beyond the requirements of § 112 ¶ 6. [R. 56.1 Stmt. ¶¶ 104, 110, 111].

Defendant relies on Dr. Bobick in support of its contention that there is insufficient structure corresponding to the term “virtual environment stimulus generator.” Despite stating that he reviewed the ‘353 patent in its entirety, Dr. Bobick’s declaration and opinions are completely void of any discussion of the StimuliGenerator class 89, the CalcStimuli 90 and GetStimuliData 92 methods, and the exemplar calculation that is contained in the ‘353 patent utilizing the StimuliGenerator class 89. [R. 56.1 Stmt. ¶ 109].

In contrast, Virtual Solution’s expert, having considered the entirety of the ‘353 patent, has opined that sufficient structure is disclosed that corresponds to the term “virtual environment stimulus generator” to allow one skilled in the art to understand that the disclosure encompassed a structure for “virtual environment stimulus generator.” [R. 56.1 Stmt. ¶ 110]. As Dr. Zavatsky has opined, the term itself connotes sufficient structure. [R. 56.1 Stmt. ¶ 111]. In addition, the voluminous excerpts, computer class and methods that pertain to the “virtual environment stimulus generator” clearly allow one of ordinary skill in the art to ascertain the meaning of claim 8. [R. 56.1 Stmt. ¶¶ 99-108]. As a result, while § 112 ¶ 6 should not apply, to the extent the Court finds otherwise, sufficient structure exists mandating denial of Defendant’s motion.

V. CONCLUSION

Based on the foregoing, Virtual Solutions respectfully requests that the Court deny Defendant’s motion for summary judgment in its entirety.

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Respectfully submitted,

/s/ Timothy E. Grochocinski
Timothy E. Grochocinski
INNOVALAW, P.C.
1900 Ravinia Place
Orland Park, Illinois 60462
P. 708.675.1974
F. 708.675.1786
teg@innovalaw.com

Anthony G. Simon
Michael P. Kella
THE SIMON LAW FIRM, P.C.
800 Market Street, Suite 1700
Saint Louis, Missouri 63101
P. 314.241.2929
F. 314.241.2029
asimon@simonlawpc.com
mkella@simonlawpc.com

Harold Y. MacCartney, Jr.
MacCARTNEY, MacCARTNEY,
KERRIGAN & MacCARTNEY
13 North Broadway, P.O. Box 350
Nyack, New York 10960
P. 845.358.0074
F. 845.358.0793
lmaccartney@mmkmlaw.com

**COUNSEL FOR PLAINTIFF
VIRTUAL SOLUTIONS LLC**

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing was served on all counsel of record via the Court's CM/ECF system on November 16, 2012.

/s/ Timothy E. Grochocinski
Timothy E. Grochocinski